Quality of Treatment and Disability Compensation in Depression: Comparison of 2 Nationally Representative Samples With a 10-Year Interval in Finland

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Objective: Depressive disorders cause substantial work impairment that can lead to disability compensation. The authors compared treatment received for depression preceding disability pension between 2 nationally representative samples with a 10-year interval.

Method: The medical statements for 2 random samples drawn from the Finnish national disability pension registers, representing populations granted a disability pension for DSM-III-R major depression during a 12-month period from October 1993 through September 1994 (N = 277) and for ICD-10 depressive disorders (F32–F33) from October 2003 through September 2004 (N = 265) were examined. The proportions of persons receiving weekly psychotherapy, antidepressants, adequate antidepressant dosage, sequential antidepressant trials, lithium augmentation, and electroconvulsive therapy (ECT) were compared.

Results: No significant differences emerged between the 2 samples, except for the adequacy of antidepressant dosage. Few subjects in either of the samples (8.7% for 1993–1994 vs. 10.6% for 2003–2004, p = .45) had received weekly psychotherapy. Most had received antidepressants (87.4% vs. 85.6%, p = .55) with increasingly adequate dosage (75.6% vs. 85.0%, p = .02), but only a minority had received sequential antidepressant trials (39.5% vs. 44.5%, p = .24). Lithium augmentation and ECT were rare (1.1% vs. 1.5%, p = .66 and 4.0% vs. 1.5%, p = .08, respectively). Even in 2003–2004, over half of the subjects were granted a disability pension without sequential antidepressant trials.

Conclusion: This nationally representative study indicates that, despite an increased antidepressant use and improved practice guidelines for depression, a considerable proportion of the people granted long-term compensation for depression seem to be suboptimally treated. Given the enormous costs of the disability, attention to the quality of treatment provided for depression is warranted before long-term disability compensations are granted.

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In the United States and other Western countries, the cost of depression to society in terms of lost working capacity is substantial.[1–4] Because depressive disorders are associated with serious psychosocial and work impairment[5–10] they can also lead to long-term disability compensation.[11,12] In a study of psychiatric inpatients and outpatients with major depressive disorder in Finland, 11% were granted a disability pension during an 18-month follow-up.[11] In another study of psychiatric outpatients with major depression, 22% were granted a disability pension during a 30-month follow-up.[12]

The prevalence of depressive disorders[13–15] and the use of health care services[16–19] are quite similar in Finland and other European countries and the United States. Adequate treatment of depression can substantially improve work ability.[20] However, very few representative studies have investigated how subjects receiving long-term compensation for depression have been treated.[21,22] Our previous study evaluated the quality of treatment preceding disability pension for major depression in 1993 to 1994 among a nationally representative sample of the Finnish

population.[21] We found that two thirds of the cases had received their pension after only a single antidepressant trial and very few (9%) had received psychotherapy. These findings were later replicated with an independent regional sample from 1996 based on patients' full psychiatric records.[22] Thus it seemed that, in Finland, long-term compensation for depression-related disability was granted without intensive treatment.

In order to improve the quality of care, clinical practice guidelines on the management of depression have been issued.[23–26] These guidelines offer strategies that can improve the effectiveness of the treatments offered,[27] including sequential trials with antidepressants and various augmentation and combination strategies. At the same time, outpatient treatment of depression has increased, and, due to the introduction of selective serotonin reuptake inhibitors (SSRIs) and other new antidepressants, the use of antidepressants has grown in the United States and other developed countries.[28,29] In Finland, antidepressant consumption tripled during the 10-year period of 1994 to 2004 (from 16.2 to 49.1 defined daily doses [DDDs]/1000 population).[30,31] Thus it could be expected that, due to the increased use of antidepressant medication and the impact of practice guidelines on treatment strategies for depression, improvements in the quality of care would have occurred among people with long-term disability. Consequently, the improvement should have resulted in an increase in intensively treated but refractory depression among those receiving compensation.

The aim of our present study was to compare the quality of treatment received in 2 nationally representative samples of subjects granted a disability pension due to depression in 1993–1994 and 2003–2004. We hypothesized that the proportion of subjects receiving psychotherapy, antidepressants, adequate antidepressant dosage, sequential antidepressant trials, lithium augmentation, and electroconvulsive therapy (ECT) treatment had increased.

METHOD

Study Context

In Finland, the pension insurance is mainly based on 2 systems: a national (basic) system, funded by the state, and an employment pension funded jointly by the employers and the employees. The national pensions are administered by the Social Insurance Institution of Finland. The employment pensions of the public sector are administered mainly by the State Treasury and a municipal pension organization called Local Government Pensions Institution, and the employment pensions of the private sector are administered by private insurance companies.

Employees under 65 years of age are eligible for disability pension after 1 year of continuous work disability; they are also eligible for a daily allowance from sickness insurance for 300 workdays. If the disability is anticipated to continue longer than this maximum, the person is assumed to apply for a temporary or permanent disability pension. According to Finnish legislation, people are considered eligible for disability pensions if they have a disease or handicap that renders them unable to work and earn an appropriate and sufficient living in their usual or a similar job, once age and professional ability are taken into consideration. The law stresses the medical criteria, but also takes into account financial and social factors. The medical impairment is evaluated by weighing the health status against the demands of the job.

Physicians evaluating the work ability of a claimant first define the most important diseases causing the impairment, and these diagnoses, along with the usual relevant demographic factors, are then filed at the premises of the Social Insurance Institution of Finland or the Finnish Center for Pensions. The files form registers that, when combined, contain representative diagnostic and demographic information on every person who has claimed a disability pension in Finland.

Sampling

The base population of our first sample was all persons living in Finland who were granted a new disability pension on the grounds of a main diagnosis of *Diagnostic and Statistical Manual of Mental Disorders*, Third Edition, Revised (DSM-III-R) major depression (codes 2961A–G) during the 12-month period from October 1, 1993, to September 30, 1994.[21] DSM-III-R criteria (with a few minor modifications) were the basis for the official classification of mental disorders in the Finnish version of the *International Classification of Diseases, Ninth Revision* (ICD-9) from 1987 to 1995.[32] The cases for the systematic random sample were drawn from the Social Insurance Institution's Disability Pension Register. This register was fully epidemiologically representative, including all pensions granted in Finland.

In the Disability Pension Register, the main diagnoses appeared in 1993–1994 in the form of a 3-digit code. We initially included all cases that had been granted a new disability pension during the study period with a main diagnostic code of 296 (N = 2567). Altogether, 349 randomly chosen cases with the code 296 were drawn. Seventy-two (21%) were then excluded on the grounds of a diagnosis of depressive disorder not otherwise specified, bipolar I disorder, bipolar disorder not otherwise specified, and dysthymia or because medical statements were missing (N = 3). Thus the final study population in the first sample comprised 277 persons (79% of the 349 drawn) with a main diagnosis of DSM-III-R major depression as the primary cause of disability pension. The details of this data collection have been reported earlier.[21]

The base population of our latter sample was all persons living in Finland who were granted a new disability pension on the grounds of a main diagnosis of ICD-10

depressive disorders (codes F32–F33) during the 12-month period from October 1, 2003, to September 30, 2004 (N = 3638). The cases for the systematic random sample were drawn from the combined disability pension registers of the Finnish Center for Pensions and the Social Insurance Institution of Finland. A fully epidemiologically representative register including all pensions granted in Finland is available when these registers are combined.

Altogether, 300 randomly chosen cases were drawn. Of these, 24 (8%) were excluded because their disability pension had been granted by small private foundations. Nine medical statements (3%) were missing, and in 2 statements (0.7%) the diagnosis had been misclassified as depression. Thus, the final study population in the latter sample comprised 265 subjects (88% of the 300 drawn) with a main diagnosis of single or recurrent depressive disorder (ICD-10 codes F32–F33) as the primary cause of their disability pensions.

The institutions granting disability pensions represented 100% of all of the disability pensions granted for depression in 1993–1994 and 92% of those granted in 2003–2004. To ensure representativeness, the sampling was stratified by sex and age.

Medical Statements

The health status of a pension claimant is described in Finland in the form of a standard medical statement, which is always prepared by a physician. The structured medical statement required for the application of a disability pension contains (1) the person's demographic data; (2) psychiatric and somatic diagnoses (ICD-codes); (3) medical history, e.g., beginning and course of the illness, medical examinations, psychiatric and somatic treatments received including medication and its dosage, and psychotherapy or other treatments during current and past episodes; (4) medical status, e.g., results of rating scales for psychiatric disorders, ratings scales for social and occupational functioning, laboratory tests, x-rays, and other examinations; (5) description of functional capacity; (6) plans for future treatment and rehabilitation; (7) the claimant's job history, current job and its demands, and the claimant's work performance; and (8) the physician's assessment of the claimant's impairments in relation to the demands of the job and work ability.

In the present study, the data were extracted from the medical statements into a structured form on the premises of the insurance institutions by a research assistant (a psychiatric nurse) supervised by a psychiatrist. The number of items in the form was 47 in 1993–1994 and 45 in 2003–2004.

The Ethics Committee of the Finnish Institute of Occupational Health approved the study. Due to Finnish legislation, personal written informed consent was not necessary, as the study was record-based and permitted by the Finnish Ministry of Social Affairs and Health and the participating insurance institutions.

Measures

On the basis of the medical statements, data were collected on the following demographic factors: age, sex, and marital status. Marital status was divided into the following 2 groups: those who were married or cohabiting (married) and those who were divorced, widowed, or single (unmarried).

Furthermore, the following health-related factors were evaluated: severity of current depressive disorder, comorbid psychiatric diagnoses, and comorbid diagnoses of physical diseases. Comorbid diagnoses were included only if mentioned in the original statement as a clinical diagnosis relevant to functional disability. Assessment of the severity of current depressive disorder (i.e., mild, moderate, severe, severe without psychotic feature, or other) was based on the diagnostic code reported by the physician in the medical statement (DSM-III-R in 1993 and ICD-10 in 2003).

In addition, the following treatment factors were collected: current treatment setting, duration of current treatment episode, use of weekly psychotherapy, antidepressant treatment, dosage and classification of antidepressants, use of sequential antidepressant trials, lithium augmentation, thyroxine augmentation, and ECT during the current episode (without specific requirements for treatment duration). In the latter sample, antidepressant augmentations with atypical antipsychotics, lamotrigine, buspirone, and folate, as well as combinations of 2 different antidepressants during the current episode were also evaluated.

The treatment setting was classified as follows: specialized mental health care, primary health care, other treatment setting, no treatment. The use of weekly psychotherapy was classified on the following basis: received psychotherapy at least once a week and at least 10 times by a trained psychotherapist. The antidepressant dose ranges given as the usual adult doses in the American Psychiatric Association Practice Guideline for Major Depressive Disorder in Adults[24] were used, classifying the antidepressant treatment into usual (adequate) or insufficient doses; the dose ranges for the antidepressants not available in the United States were taken from other sources.[26] Antidepressants were classified as follows: tricyclic antidepressants (TCAs), SSRIs, and other antidepressants.

A sequential antidepressant trial was defined as switching from one antidepressant to another. Combination treatment was defined as concurrent use of 2 antidepressants. Augmentation of an antidepressant was defined as combining antidepressant medication with other agents (i.e., lithium, thyroid hormone, atypical antipsychotic, lamotrigine, buspirone, or folate). Use of thyroid hormone (yes/no) was further classified as follows:

Table 1. Demographic and Health-Related Factors of the 2 Samples of Persons With Disability Pensions for Depression According to Sex[a]

Characteristic	1993–1994 Sample, N (%)			2003–2004 Sample, N (%)			χ^2	df	p Value[b]
	Men (N = 155)	Women (N = 122)	Total (N = 277)	Men (N = 107)	Women (N = 158)	Total (N = 265)			
Marital status[c]							5.0	1	.03
Married	93 (60.4)	78 (65.0)	171 (62.4)	47 (47.5)	87 (56.1)	134 (52.8)			
Unmarried	61 (39.6)	42 (35.0)	103 (37.6)	52 (52.5)	68 (43.9)	120 (47.2)			
Severity of current depressive disorder[d]							3.1	4	.55
Mild	5 (3.2)	8 (6.6)	13 (4.7)	1 (0.9)	8 (5.1)	9 (3.4)			
Moderate	65 (41.9)	46 (37.7)	111 (40.1)	45 (42.1)	74 (46.8)	119 (44.9)			
Severe	67 (43.2)	48 (39.3)	115 (41.5)	45 (42.1)	64 (40.5)	109 (41.1)			
Severe with psychotic feature	15 (9.7)	13 (10.7)	28 (10.1)	12 (11.2)	6 (3.8)	18 (6.8)			
Other	3 (1.9)	7 (5.7)	10 (3.6)	4 (3.7)	6 (3.8)	10 (3.8)			
Comorbid psychiatric diagnosis							3.5	1	.06
Yes	66 (42.6)	54 (44.3)	120 (43.3)	56 (52.3)	80 (50.6)	136 (51.3)			
No	89 (57.4)	68 (55.7)	157 (56.7)	51 (47.7)	78 (49.4)	129 (48.7)			
Comorbid diagnosis of physical disease							1.2	1	.26
Yes	73 (47.1)	52 (42.6)	125 (45.1)	47 (43.9)	60 (38.0)	107 (40.4)			
No	82 (52.9)	70 (57.4)	152 (54.9)	60 (56.1)	98 (62.0)	158 (59.6)			

[a]Data are from the medical statements of the Social Insurance Institution of Finland, the State Treasury, Local Government Pensions Institute, Farmers' Social Insurance Institute, and 7 private insurance institutions.
[b]Total data from the 1993–1994 sample vs. total data from the 2003–2004 sample.
[c]The numbers for marital status are lower due to missing data. Percentages are based on the total for married plus unmarried in each column.
[d]In the 1993–1994 sample, the patients had met criteria for DSM-III-R major depression, and in the 2003–2004 sample, the criteria for ICD-10 depressive disorder (F32–F33) had been met.
Abbreviations: DSM-III-R = *Diagnostic and Statistical Manual of Mental Disorders*, Third Edition, Revised; ICD-10 = *International Classification of Diseases, 10th Revision*.

augmentation of antidepressant medication, treatment of hypothyroidism.

Statistical Analysis

We used χ^2 tests and a 1-way analysis of variance for the comparison of the 1993–1994 and 2003–2004 samples. We analyzed the data using SPSS for Windows, version 12.0.1 (SPSS Inc., Chicago, Ill.). Values of $p < .05$ were considered statistically significant.

RESULTS

Medical Statements

In both samples, most of the statements had been written by a psychiatrist (77.3% in the earlier sample vs. 88.2% in the latter sample). Between the 2 samples, the proportion of statements written by a psychiatrist increased ($\chi^2 = 11.3$, df = 1, $p = .001$).

Demographic Factors

The first sample comprised 122 women (44.0%) and 155 men (56.0%), whereas the latter sample comprised 158 women (59.6%) and 107 men (40.4%) ($\chi^2 = 13.2$, df = 1, $p < .001$). The subjects granted a disability pension in the latter period were also more often unmarried than those pensioned 10 years earlier (Table 1). There were no differences in mean age between the samples (mean ± SE = 48.1 ± 0.5 years vs. 48.2 ± 0.6 years).

Health-Related Factors

There were no significant differences between the 2 samples in the severity of current depressive disorder. In both samples, the level of the current depressive episode was primarily moderate or severe (Table 1). No significant differences appeared between the samples with respect to the proportion of subjects having comorbid psychiatric diagnoses or comorbid diagnoses of physical diseases.

Treatment Factors

There were no statistically significant differences between the subjects in the 2 samples with regard to the current treatment setting (data not shown). In both samples, most of the persons had been treated in specialized mental health services before their disability pension was granted (91.7% for the 1993–1994 sample vs. 90.7% for 2003–2004). Only 6% of the subjects in each of the samples had been treated in primary health care facilities. In the latter sample, the mean duration of the current treatment episode was longer than that of the earlier sample (mean ± SE = 21.3 ± 1.3 months vs. 10.9 ± 0.5 months; F = 55.0, df = 1, $p < .001$) (values not shown in the table).

As shown in Table 2, weekly psychotherapy was rarely received, and no significant differences were found between the 2 samples in this respect (8.7% for 1993–1994 vs. 10.6% for 2003–2004). In the latter sample, women had received weekly psychotherapy more often than men (15.8% vs. 2.8%, respectively; $\chi^2 = 11.7$, df = 2,

Table 2. Treatment Received for Depressive Disorders Before Disability Pension in the 2 Samples According to Sex[a]

Characteristic	1993–1994 Sample, N (%)			2003–2004 Sample, N (%)					
	Men (N = 155)	Women (N = 122)	Total (N = 277)	Men (N = 107)	Women (N = 158)	Total (N = 265)	χ^2	df	p Value[b]
Psychotherapy							0.6	1	.45
Yes	15 (9.7)	9 (7.4)	24 (8.7)	3 (2.8)	25 (15.8)	28 (10.6)			
No	140 (90.3)	113 (92.6)	253 (91.3)	104 (97.2)	133 (84.2)	237 (89.4)			
Current antidepressant treatment[c]							0.4	1	.55
Yes	138 (89.0)	104 (85.2)	242 (87.4)	91 (85.0)	135 (86.0)	226 (85.6)			
No	17 (11.0)	18 (14.8)	35 (12.6)	16 (15.0)	22 (14.0)	38 (14.4)			
Antidepressant dosage[d,e]							8.3	2	.02
Adequate dosage	104 (75.4)	79 (76.0)	183 (75.6)	77 (84.6)	115 (85.2)	192 (85.0)			
Inadequate dosage	20 (14.5)	15 (14.4)	35 (14.5)	5 (5.5)	10 (7.4)	15 (6.6)			
Unknown dosage	14 (10.1)	10 (9.6)	24 (9.9)	9 (9.9)	10 (7.4)	19 (8.4)			
Sequential antidepressant medication[f]							1.4	1	.24
Yes	60 (38.7)	49 (40.5)	109 (39.5)	45 (42.1)	73 (46.2)	118 (44.5)			
No	95 (61.3)	72 (59.5)	167 (60.5)	62 (57.9)	85 (53.8)	147 (55.5)			
Lithium augmentation							0.2	1	.66
Yes	1 (0.6)	2 (1.6)	3 (1.1)	4 (3.7)	0 (0.0)	4 (1.5)			
No	154 (99.4)	120 (98.4)	274 (98.9)	103 (96.3)	158 (100.0)	261 (98.5)			
ECT							3.1	1	.08
Yes	6 (3.9)	5 (4.1)	11 (4.0)	3 (2.8)	1 (0.6)	4 (1.5)			
No	149 (96.1)	117 (95.9)	266 (96.0)	104 (97.2)	157 (99.4)	261 (98.5)			

[a]Data are from the medical statements of the Social Insurance Institution of Finland, the State Treasury, Local Government Pensions Institute, Farmers' Social Insurance Institute, and 7 private insurance institutions.
[b]Total data from the 1993–1994 sample vs. total data from the 2003–2004 sample.
[c]Data on current antidepressant treatment are missing in 1 case in the 2003–2004 sample.
[d]Dose ranges correspond to those recommended as usual adult doses in the American Psychiatric Association Practice Guideline for Major Depressive Disorders in Adults (except for antidepressants not available in the United States).
[e]The numbers and percentages for antidepressant dosage are based on the numbers of persons with current antidepressant treatment.
[f]Data on sequential antidepressant treatment are missing in 1 case in the 1993–1994 sample.
Abbreviation: ECT = electroconvulsive therapy.

p = .003). In both samples, ECT was rarely used (4.0% vs. 1.5%; $\chi^2 = 3.1$, df = 1, p = .081). Nearly 90% of the subjects in both samples had received antidepressant medication before their disability pension (Table 2). There were no differences in this respect between the 2 samples. Among the subjects using antidepressants, the dosage represented usual adult doses in most of the cases in both samples. The proportion of persons with an adequate dosage had even increased (Table 2). The use of TCAs had clearly decreased (86/239 [36.0%] vs. 13/219 [5.9%]), and the use of SSRIs or other newer antidepressants had increased (89/239 [37.2%] vs. 106/219 [48.4%] and 64/239 [26.8%] vs. 100/219 [45.7%], respectively) ($\chi^2 = 62.5$, df = 2, p < .001).

Between the 2 samples, no significant differences were found for the proportion of subjects receiving sequential antidepressant trials (Table 2). About 40% of the persons had switched their first antidepressant for a new one in both samples. Lithium augmentations were rarely received, and there were no significant differences in this respect between the 2 samples. In the latter sample, men had received lithium augmentation more often than women (3.7% vs. 0%, respectively; $\chi^2 = 6.0$, df = 1, p = .014). In both samples, no one had received thyroxine as augmentation. However, for some of the subjects, it had been prescribed for hypothyroidism (1.4% for 1993–1994 vs. 3.8% for 2003–2004; $\chi^2 = 2.9$, df = 1, p = .087).

As shown in Table 3, in both samples, the proportion of subjects who had received both weekly psychotherapy and antidepressant medication was small. There were no significant differences between the 2 samples in this respect. In the latter sample, women had received combination of weekly psychotherapy and antidepressant medication more often than men (13.4% vs. 1.9%, respectively; $\chi^2 = 10.6$, df = 1, p = .001).

Data related to Figure 1 were only available for the latter sample. Of the subjects, 13.2% were receiving atypical antipsychotics, 0.8% were taking lamotrigine, and 0.4% were taking folate in addition to an antidepressant. No one took buspirone. A combination of 2 different antidepressants was received by 16.2%.

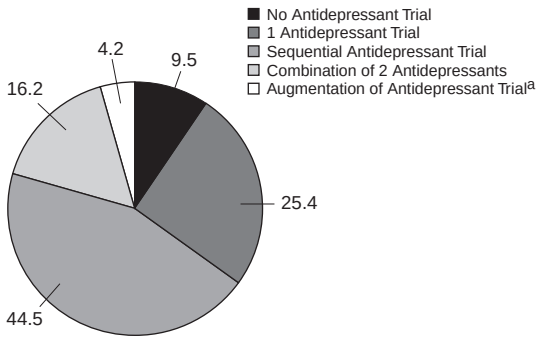
Altogether, 60.7% of the subjects in the latter sample were receiving either sequential antidepressant trials or a combination of 2 antidepressants. In addition, for 4.2% of the subjects, the antidepressant was being augmented by lithium, atypical antipsychotics, lamotrigine, or folate, but these persons had not received sequential or combination trials during the current episode. Thus, overall 64.9% had received either a sequential or combination treatment or augmentation of an antidepressant by another agent (Figure 1).

Table 3. Combination of Psychotherapy and Antidepressant Treatment Received for Depressive Disorders Before Disability Pension

Characteristic	1993–1994 Sample, N (%)			2003–2004 Sample, N (%)					
	Men (N = 155)	Women (N = 122)	Total (N = 277)	Men (N = 107)	Women (N = 157)	Total (N = 264)	χ^2	df	p Value[a]
Combination treatment[b]							1.0	1	.33
Yes	14 (9.0)	4 (3.3)	18 (6.5)	2 (1.9)	21 (13.4)	23 (8.7)			
No	141 (91.0)	118 (96.7)	259 (93.5)	105 (98.1)	136 (86.6)	241 (91.3)			

[a]Total data from the 1993–1994 sample vs. total data from the 2003–2004 sample.
[b]Data on combination treatment are missing in 1 case in the 2003–2004 sample (N = 264).

Figure 1. Antidepressant Trials During the Current Depression Episode Among Patients Granted a Disability Pension in 2003–2004 (%)



[a]Including augmentation of an antidepressant with lithium, atypical antipsychotics, lamotrigine, or folate but no sequential or combination trials during the current episode.

DISCUSSION

Using medical statements for 2 random samples from Finnish disability pension registers during a 10-year period, we showed that, in spite of a remarkable increase in the use of antidepressants and improved practice guidelines for depression, a high proportion of the subjects receiving long-term compensation for depression seem still to be suboptimally treated.

In both samples, weekly psychotherapy was rarely received, and no significant growth occurred in this respect between the 2 samples, even though effective psychological interventions feasible for both primary and secondary care are available.[23,33–35] While it remains uncertain whether psychotherapy alone would have been effective in preventing disability due to depression in our samples, it is probable that at least some of the subjects may have benefited from a combination of psychotherapy and psychopharmacologic treatment.[36,37] It must be emphasized, however, that we did not collect data on psychotherapy with less than 10 times duration or with longer than weekly intervals.

While the use of antidepressant medication has remarkably increased during the past 10 years, it could have been expected that, in the latter sample, most of the subjects would have gone through repeated, sequential antidepressant trials or various augmentation or combination treatments, and that the problems of treatment would have been related to refractory depression. It is true that most of the subjects in both samples had been treated with antidepressant medication, with doses found to be effective in clinical trials, and adequate dosage was even more common in the latter sample, probably due to the decrease in the use of TCAs. However, the proportion of sequential antidepressant trials had not increased. Sequential trials were not systematically used preceding the disability pension even though switching to another antidepressant has been shown to be effective, at least for some nonresponders.[38,39]

Antidepressant combinations may also provide a useful resort for otherwise resistant patients.[40,41] In the early 1990s, a combination of 2 concurrent antidepressants was less commonly used, and therefore that treatment option was not evaluated in our first sample. In the latter sample, about 60% of the subjects had received either sequential antidepressant trials or a combination of 2 different antidepressants.

Various medications used in conjunction with antidepressants may help to augment the effect of antidepressants.[41–43] In our study, the proportion of subjects receiving lithium augmentation was small, and it did not increase between the 2 samples. Augmentation with atypical antipsychotics was used for 13% of the subjects in the latter sample, but whether there had been any increase between the 2 samples remains unclear because the data on this aspect were only collected in the latter sample.

Electroconvulsive therapy can be a first-line treatment for persons who have severe major depressive disorder with psychotic features, psychomotor retardation, or medication resistance.[24,41] In our study, the proportion of persons receiving ECT was small, and it did not increase between the 2 samples despite its proven efficacy in resistant depression.[44] The lack of ECT is striking given the fact that, in both samples, about half of the subjects had severe or psychotic depression.

Our results point to a major concern with regard to the quality of treatment among persons with depression that had led to long-term work disability. Between the 2 samples, the duration of the treatment period preceding

the disability pension had increased, thus giving a better opportunity for trials of effective treatment options. Although most of the subjects used antidepressant medication with adequate dosage and the proportion of persons with adequate dosage had even increased, the use of psychotherapy, sequential antidepressant trials, lithium augmentation, and ECT had not increased. In the latter sample, about 40% of the subjects were granted a disability pension after a single trial with an antidepressant.

There may be several reasons for our findings. In general, in the treatment of depression, problems of quality of care appear to be related to the suboptimal intensity and monitoring of the treatment provided.[22] Furthermore, patients' characteristics, their beliefs about the disorder or about the medication, or problems with the patient-physician relationship may affect the treatment adherence.[45,46] Psychiatric comorbidity, which was reported as contributing to functional disability among 43% to 51% of the patients in our study, may also have an impact on the health care utilization.[19,47] On the other hand, disability pensions are predicted by multiple sociodemographic and clinical factors, not exclusively clinical ones. In addition, sick leaves may have adverse, disability-reinforcing consequences.[11]

In many Western countries, the annual number of disability pensions granted for depressive disorders has increased since the beginning of the 1990s.[2,3] So far, the reasons for this increase have remained unknown, although it has been stated that the increase may be a consequence of many changes in society, including various social factors, working life factors, health care issues, and population changes.[3]

On the basis of our findings, disability evaluations of depressive patients should always prompt requirements for evidence-based antidepressant and other treatments and monitoring of these treatments. Actions to ensure treatment adherence need also to be taken into account. In addition to practice guidelines for health care professionals, more comprehensive organizational interventions may also be needed in both primary and specialized mental health care to improve the quality of care among depressive patients who are at risk of long-term disability.[48,49] In order to prevent permanent disability, the positive and negative consequences of sick leave practices should also be considered.

Our findings are generalizable to the Finnish population granted a depression-related disability pension. The results may also be generalized to other developed countries, because the prevalence of depressive disorders,[13–15] the use of health care services,[16–19] and the level of antidepressant use [28,31,50] are quite similar in Finland and other Western countries. Furthermore, there are no large differences in the criteria for receiving disability compensation due to depression, although the level of compensation may vary between countries.[2]

Our study was unique in many respects. We collected data on 2 nationally representative samples with a 10-year interval. There were no significant differences between the 2 samples in the severity of current depressive disorder or with respect to the proportion of persons having comorbid psychiatric or somatic diagnoses. Between the sampling periods, major changes had occurred in the treatment of depression, including a remarkable increase and development in the use of pharmacotherapy.[18,28,29] The study was completely record-based, and thus recall bias and other biases related to surveys could be avoided. The registers covered virtually the whole Finnish population. A possible limitation regarding the validity of our results is whether the medical statements underreported the treatment received. However, at the same time of the data collection of our first sample,[21] another Finnish study was performed that used full psychiatric records of depressive patients in psychiatric settings.[22] That study gave similar results concerning patients granted disability pensions, and thus confirmed the validity of the medical statements used in our study. We have no reason to believe that there were any major changes between the 2 samples in the way their medical statements had been made. In both samples, structured medical statements were used in which comprehensive information, including demographic data, medical history, medical status, functional capacity, and treatment received, was required.

The diagnostic classification for depressive disorders had changed between the 2 samples. In practice, however, there are no major differences between the DSM-III-R diagnosis of major depression and the ICD-10 criteria for single or recurrent depressive disorders.[32,51] Thus the differences between the diagnostic procedures do not constitute a major bias in our study.

In conclusion, we have concise practice guidelines for treatment strategies for depression, and effective treatments are also available. However, our nationally representative study indicates that, in spite of improved practice guidelines for treating depression and a remarkably increased use of antidepressants, a high proportion of subjects who receive long-term compensation for depression still seem to be suboptimally treated.

Drug names: buspirone (BuSpar and others), lamotrigine (Lamictal and others), lithium (Eskalith, Lithobid, and others).

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